THE RELATIONSHIP BETWEEN ADJUSTMENT AND BEREAVEMENT-RELATED DISTRESS: A LONGITUDINAL STUDY

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The current study assessed 125 conjugally bereaved persons using multiple self-report measures as indicators of personal adjustment and bereavement distress across three times of testing (initial, 6-month, and 3-year follow-up). Cross-lagged panel analyses were conducted to examine the causal relationships between adjustment and bereavement distress indicators and overall factors. Exploratory factor analyses indicate measures of adjustment load on a single Adjustment factor and measures of bereavement distress load on a single Grief factor. Considering results using composite scores for each variable, adjustment was significantly more predictive of bereavement distress than bereavement distress was predictive of adjustment for both Time 1 to Time 3 and Time 2 to Time 3. Adjustment issues measured by indicators such as the UCLA, POMS, HSC, BDI, and RSES significantly influenced the extent of grief symptoms as measure by the BEQ and the severity of scope of grief symptoms as assessed by the IOLQ.

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CHAPTER I

INTRODUCTION

Surviving a spouse and negotiating conjugal grief requires an individual to perform a number of tasks. Coping with the emotional nature of the loss (Stroebe, Stroebe, & Domittner, 1988), altering functional roles in everyday life (Atchley, 1972), and compensating for the absence of a significant family and social figure (Marsiske, Lang, Baltes, & Baltes, 1995) are several among many. While the empirical literature lends considerable time and space to the identification of problems related to widowhood (Atchley, 1972; Raphael, 1983), a growing amount of information is available concerning the successful adjustment and positive outcomes of grieving persons (Folkman, 1997; Lindstrom, 1997).

To this end, a study completed by Caserta and Lund (1992) suggested nonbereaved individuals consistently and significantly underestimate resiliency and overestimate distress severity among conjugally bereaved groups. Conway-Williams, Hayslip, and Tandy (1991) found significant differences between professional assessment of bereavement distress among widows and the self-reports of the widows themselves. Specifically, professional helpers perceived greater bereavement distress among their conjugally bereaved clients than the clients themselves reported to experience. For this reason, it is important to rely on the

perspectives and experiences of bereaved individuals when developing and maintaining theories addressing bereavement distress and adjustment.

Research studies yielding insight into causal relationships between personal adjustment and bereavement distress are sparse. That is, the causal relationships between variables of life adjustment and bereavement experience are rarely investigated or modeled. The purpose of the current study will be to assess this very issue.

To begin, it is important that several key definitions are established. The term bereave is commonly known as the act of depriving someone of something. The term “bereaved” may be naturally deduced as the state of being deprived of something, specifically an important human relationship due to death. “Grief” identifies the distress and emotional experiences created by bereavement and the term “mourning” may be described as the observable behaviors attributed to the expression of grief. Concerning the current paper, these definitions will be adopted. Namely, bereavement is the process of experiencing a significant death loss where grief is the experience of emotion and distress affiliated with bereavement.

Models of Grief and Bereavement Adjustment

To date, there exists a wealth of work explicating models of bereavement (Atchley, 1975; Moos, 1995; Parkes, 1988; Kubler-Ross, 1969; Bowlby, 1980; Pollock, 1987), grief coping processes (Stroebe & Schut, 1999; Maxwell, 1995; Lindstrom, 1999; Jacobs, Kasl, Schaefer, & Ostfeld, 1994), and adjustment (Parkes, 1988; Schut, Stroebe, van den Bout, & Keijser, 1997; Stein, Folkman, Trabasso, & Richards, 1997). Attempts to classify an appropriate response to the loss of a spouse are numerous yet admittedly approximate. Approaches to navigating the process are as diverse and unique as the individuals affected. Even so, researchers and practitioners have come to observe some general themes and trends within the bereavement process.

Psychodynamic Model

Psychoanalytic models call attention to relationship issues between bereaved and deceased persons prior to the death event, suggesting the quality of the relationship greatly influences the experience of loss by the survivor, with poorly established interpersonal bonds leading to a more problematic grieving process (Freud, 1959; Schultz, 1978). Likewise, if the relationship between bereaved and deceased was in good standing and was characterized by a close, positive bond, the ability of the survivor to cope is expected to improve.

It is also important to note the loss of a significant relationship is a stressor in and of itself, perhaps compromising current adjustment strategies and exerting pressure on preferred coping mechanisms. In psychoanalytic terms, decathexis with regard to the deceased individual is essential to facilitate a healthy grief response. Studies are available demonstrating the impact of conjugal bereavement on physiological health, psychological well being, and social behavior (Stroebe & Stroebe, 1993; McCrae & Costa, 1993); Lichtenstein, Gatz, & Berg, 1998). An essential question presents itself. Does bereavement distress cause poor adjustment or does poor adjustment cause bereavement distress?

The work of Freud (1917) is a widely sanctioned theoretical foundation for research and intervention with grieving persons. The writing of Freud implies the process of grieving involves the conscious and unconscious detachment of "libido" from the deceased person. That is, breaking ties of energy, emotion, and psychological association common to the terminated relationship (Freud, 1917). According to Freud (1917 & 1959) this can be successfully achieved by focusing on the life, memories, and experiences surrounding the deceased companion in order to accept the reality of the loss, acknowledge the broken bond, and adjust to the absence of the individual in the natural world.

Attachment Theory

The theory of Bowlby (1969, 1980) builds on portions of Freud's theory in suggesting death of a spouse arouses unconscious and conscious "attachment reactions" and initiates "attachment behaviors" associated with separation from the deceased individual (Fraley & Shaver, 1999). According to Bowlby, the course of the grief response process is largely dictated by the attachment system, described to be the cumulative effects of early childhood relationships and attachment experiences.

For this reason, persons benefiting from a history of positive family relationships and secure childhood attachments are expected to respond to personal loss with healthy separation and adaptation. Conversely, persons possessing a history of failed familial relationships and insecure or avoidant attachment systems are expected to respond to bereavement losses with anger, irritability, and difficulty separating from the deceased person (Bowlby, 1980; Sable, 1991).

Bowlby (1980) has described the human response to death loss inside the boundaries of attachment theory and the association of grief reactions to security of attachments with significant early life relationships. More secure attachment bonds early in life thus allow for successful coping and adjustment to lost relationships due to death throughout life.

In many ways attachment theory implies relationship factors and overall adjustment prior to a death event greatly impact the bereavement process following the event, though empirically validated models supporting such notions are not available.

Stage Theories

Conceptualizations in addition to Bowlby (1980), including Kubler-Ross (1969) and Pollock (1987) have been identified as stage theories of grief and offer a linear guide for the "normal grief" process. Bowlby (1961, 1973) first proposed stages of grief, labeling shock, searching, depression, and reorganization/recovery as four distinct phases of bereavement response and adjustment. Kubler-Ross (1969) posited "mourners", will perhaps spend more time in one stage than another, return to previous stages, or progress through more than one stage simultaneously, thus rendering stage models rather relative and difficult to assess empirically. Shuchter and Zisook (1993) warn readers against a literal interpretation of stage theories, arguing linear perspectives fail to represent the dynamic, diverse, and overlapping nature of the individual bereavement course. Differences in affect, coping, family issues, social relationships, identity, and psychological functioning cannot be explained within stage models (Shuchter & Zisook, 1993).

Worden's Tasks of Mourning Model

Worden (1991) discussed four *tasks of mourning* subsequent to loss of a spouse: (a) facing the reality of the death, (b) experiencing the distress and suffering associated with the loss, (c) accepting the absence of the deceased into their framework of the environment, (d) incorporating the emotional experiences surrounding their loss into their daily lives. Case study information, in support of Worden (1991) has indicated grieving persons make beneficial strides to healing when able to limit avoidance behaviors, accept the loss, and prevent disruptive "intrusions" of painful emotions during daily life (Balk & Vesta, 1998). Worden's theory appeals to positive adjustment and approaches to dealing with loss in order to limit bereavement distress and longstanding symptoms of grief.

Cognitive Model

After the death of a spouse, an individual is required to use problem-solving skills and cognitive restructuring to overcome multiple psychological tasks, changes in identity, and practical obstacles of everyday living (Hansson, Remondet, & Galusha, 1993; Wortman, Silver, & Kessler, 1993). Personal motivation, ability to achieve new tasks, success discriminating between important and unimportant problems, perceived control, and competency maintaining social support systems are proposed to mediate a person's cognitive response to grief and use of

cognitive problem-solving skills to continue toward healthy adjustment (Hansson et al., 1993). Furthermore, Wortman et al. (1993) propose adjustment to grief requires an appropriate balance between stress and coping, adequately utilizing cognitive and behavioral mechanisms to achieve successful adjustment.

The personal construct theory of Kelley (1955), when applied to bereavement issues, proposes conjugally bereaved persons must actively work to restructure their assumptions and expectations concerning the surrounding environment using cognitive and behavioral strategies (Parkes, 1975). A lack of such work is proposed to precipitate maladaptive grief and a person's ability to tackle challenging life events in general mediates cognitive and behavioral responses to bereavement.

Psychosocial Transition Theory

The death event and time to follow is recognized to be one of many psychosocial transitions inherent to the natural human lifespan (Parkes, 1988; Balk & Vesta, 1998). That is, according to Parkes (1988) and Shapiro (1996), it involves a shift from one set of assumptions and beliefs about the world to another set of revised and appropriate assumptions and beliefs. The ability of individuals to mourn their losses, experience and manage emotions, maintain adequate vocational and social functioning, fulfill personal responsibilities, and incorporate

their experiences into a satisfying life are recognized indicators of adjustment and psychosocial transition (Stroebe & Stroebe, 1983; Moos, 1995; Folkman, Lazarus, Gruen, & DeLongis, 1986; Maxwell, 1995). Responses to the death allowing a person to modify personal and internal assumptions about the surrounding world and affairs within are proposed to be essential to optimal adjustment (Parkes, 1988; Hansson & Remondet, 1988) and develop as a function of cognitive flexibility, problem-solving skills, social support and resilience.

Bugen's Preventability and Centrality Model

Concerning prediction in grief work, Bugen (1977) models the influence of closeness of relationship and perceived preventability among bereaved individuals. Within his model, the "preventable" loss of a "central relationship" will led to an intense and prolonged grieving process. The "preventable" loss of a "peripheral relationship" precipitates mild and prolonged grief reactions. The closeness of the relationship is proposed to moderate the intensity of the bereavement experience and the level of perceived preventability moderates the duration of grief at the intensity prescribed. Similar to psychodynamic, attachment, and psychosocial theories, Bugen (1977) supports the notion that individual and relationship functioning influences an individual's response to the loss of a relationship.

Allen and Hayslip (2000) also purport quality of the lost relationship will influence the grieving process while citing "methodological shortcomings" to research in this area. Individuals reporting poor relationship quality with deceased relatives also exhibit personality characteristics and coping strategies unbeneficial to positive bereavement outcome in the first place. Furthermore, measuring closeness of relationship to deceased usually takes place after the death and is often compiled of one perspective, the survivor.

Integrative Model of Grief

Recently, Moos (1995) presented an integrative model of grief, illustrating the roles of individual perceptions in the context of family processes to shaping individual and familial response to bereavement. From a systemic perspective, Moos (1995) proposes family members, each carrying an interpretation of the death, will interact with one another to determine the course of grief in the family and coping strategies adopted. The collective family system and forces within alter after a death event such to create new styles of relating, communicating, adapting, and coping with stress and difficult emotions (Moos, 1995). According to this model, the most appropriate approach for addressing individual grief is suggested to be within the family context (Moos, 1995; Goldberg, 1973). It is further emphasized the condition of relationships and adjustment

strategies present with in the family at the time of loss actively shape approaches to coping and adaptation processes following the death.

Dual Process Model

The Dual Process Model of Coping with Bereavement has been proposed by Stroebe and Schut (1999). The authors first explore the idea of "grief work" as the act of contemplating and processing the events, relationships, changes, and emotions associated with the loss. The Dual Process Model is presented as a working taxonomy of definitions and strategies relevant to coping behaviors among persons bereaved of a close relationship. According to Stroebe and Schut (1999) dealing with the "everyday life experience" of grief entails two parallel stress processes: Loss-oriented and Restoration-oriented. Coping within this system is described as a relationship between activities of "grief work" itself and the initiation new roles, life changes, and methods for avoiding the processing of bereavement experiences. It is fair to identify the two processes as competitive, given each process seeks to suppress the practices of its counterpart. For example, loss-oriented stressors involve "intrusions of grief" into daily life experiences whereas restoration-oriented stressors involve "distractions from grief" to provide opportunities for concentrate effort in other domains of life functioning.

Factors Influencing Adjustment to Loss

Age

Factors found to mediate the course of grief include demographics age (Folkman, Lazarus, Pimley, & Novacek, 1987) gender (Hayslip, Allen, McCoy-Roberts, 2000). Among persons over age 65 years it has been estimated approximately 50% of women and 15% of men have experienced widowhood at least once (Raphael, 1983). Emotional suffering and effects of loss experienced after the death of a spouse is often portrayed to be more intense among younger samples (Neugarten, 1979; Siggins, 1966), though a study by Sable (1991) using a sample of eighty-one women found older participants to report significantly more anxiety and depression while demonstrating greater difficulty accepting the loss of their spouse compared to the reports of participants in the young widow group. Folkman, Lazarus, Pimley, and Novacek (1987) proposed members of different age cohorts often face qualitatively different stressors as a result of their context while also implementing developmentally driven coping mechanisms specific to their level of development. For this reason, observations of response to grief will often differ across age. For example, the effects of unanticipated and preventable death have been found to vary with age differences (Allen & Hayslip, 2000; Bugen, 1977).

Gender

Research indicates the practical and emotional impacts of bereavement are more profound among women when compared to men and that men are more likely to marry again following the death of a spouse (Hayslip, Allen, & McCoy-Roberts, 2000). It is not uncommon for men to have greater difficulty expressing emotion following spousal loss, enter into romantic relationships more rapidly after the death, and demonstrate more significant struggles accepting the loss when compared to women (Shuchter & Zisook, 1993). Women typically report greater emotional distress, admit to feeling helpless, and express more significant changes in identity and social role (Allen & Hayslip, 2000). The risk of mortality and illness is greater for men (Gallagher-Thompson, Futterm,an, Farberow, Thompson, & Peterson, 1993), in addition to increased social isolation.

Depression is found to be more pervasive for widows than widowers (Gilewski, Farberow, Gallagher, & Thompson, 1991; Hayslip, et al., 2000) and widows may perceive fewer coping resources (Hayslip, Allen, & McCoy-Roberts, 2000). Without question, most research in the area of grief and coping involve samples of women. Grief groups, bereavement organizations, and other associations addressing death loss are predominantly female. Typically, these organizations are approached when

seeking participants in research studies and women are more likely to agree to contribute once contacted.

Personality Variables

Personality characteristics (Meuser, Davies, & Marwit, 1994-1995) and pre-existing psychological conditions (Gilewski, Farberow, Gallagher, & Thompson, 1991) also mediate reactions to the loss of a spouse. Gilewski et al. (1991) found individuals determined to be moderate to severely depressed at the time of the death event encountered significantly greater and more severe psychological and emotional problems following the loss of spouse. Furthermore, participants reporting the greatest levels of depression at the time of death were also found to adjust least effectively to spousal loss due to suicide when compared to participants reporting lower levels of depression. The findings support the notion that problems with adjustment and adaptation prior to and during stressful events such as death loss strongly influence the course of bereavement and coping during the months and years following the event.

Perceived Competency and Social Support

Perceived levels of control and competency are variables indicated to influence the distress related to bereavement and mediate the course of healing among the conjugally grieved (Allen & Hayslip, 2000; Lowenstein & Rosen, 1995). In a stratified-random sample of 246 widows, Lowenstein and Rosen

(1995) demonstrated the extent to which a widow perceives personal control and competency mediates the level of stress experienced and the amount of social support exchanged following the loss. Furthermore, Hayslip et al. (2000) provide evidence to suggest the level of confidence with which a conjugally bereaved person approaches the tasks of grief and mourning influences successful coping.

Several studies are available establishing the relationship between social support and bereavement experience (Dimond, Lund, & Caserta, 1987; Vachon & Stylianos, 1988). Across a two-year period of time, Dimond and her colleagues (1987) determined measures of social support and contact were significantly predictive of bereavement outcome scores. For bereaved persons, independent variables such as "perceived closeness' and "quality of interaction" within convoys of support were strongly correlated with dependent measures including severity of depressive symptoms and reported level of life satisfaction. A review by Vachon and Stylianos (1988) further emphasize the idea positing strong and involved social support networks lead to lower levels of distress following conjugal bereavement.

Cultural Factors

Shapiro (1996) expresses the importance of cultural factors in mediating responses to loss and approaches to coping with grief. In her discussion, Shapiro (1996) suggests individual

experience is often stressed and addressed more frequently than family and cultural processes concerning grief and mourning. According to Shapiro (1996), current models and interventions are guided by several western theoretical assumptions including the notions: (a) grief is a private experience, (b) the open expression of affect is required to achieve optimal health when bereaved, (c) the grief process has a fixed ending, and (d) frequent visual and auditory contact with the deceased is a significant psychological problem. Concepts such as goodness of fit, family process, and negotiation of transition are considered to be of principal importance when considering the needs of grieving individuals and families.

Based on observations of grief processes across cultures, Rosenblatt, Walsh, and Jackson (1976) discovered feelings of sadness, fear, anger, and suffering were common themes across most cultural groups, lending support for their "core process" theory of grief and mourning. Additional insights by Brison and Leavitt (1995) suggest fears of abandonment and desires to maintain connections with the deceased are common among peoples from Midwestern United States, Mexico, Indonesia, and Papa New Guinea.

Available Coping Responses

Coping responses are indicated to be important influences on physical health and psychological well being concerning

bereaved persons (Lindstrom, 1997). In her article, Lindstrom (1997) defines coping as "positive response outcome expectancies" and collected self-report coping measures with other assessment data from thirty-nine conjugally bereaved women. Women appraising their predicted coping success initially as "good" were found to increased their rating of predicted coping success one year later (83.4% increased their score). Comparatively, participants rating their predicted coping success to be "poor" demonstrated only a 50% likelihood of increasing their prediction score after one year. Furthermore, 75% of a "medium" coping success group increased their predicted coping success score at one-year follow-up. Ratings of "poor" coping were significantly related to problematic subjective health ratings whereas "good" coping expectancies precipitated positive subjective health ratings during follow-up interviews. Emotional functioning during initial administration times was predictive of emotional functioning one year later.

Positive reappraisal, problem-focused goals, spiritual beliefs and practices, and drawing positive meaning from distressing events represent several coping approaches proposed to be efficacious when adjusting to bereavement (Folkman, 1997; Jacobs, Kasl, Schaefer, & Ostfeld, 1994). Among men, active approaches to "conquering" grief have demonstrated coping utility (Maxwell, 1995; Goodman, Black, & Rubinstein, 1996).

Women are often successful using social- and emotion-based coping strategies (Lindstrom, 1999; Shapiro, 1996). Among a sample of 44 widows, Lindstrom (1999) observed several "trends" and found women identifying with a "modern" female gender role experienced and exercised greater personal control, used problem-focused coping strategies more frequently, and employed cognitive planning. Women identified as "traditional" in their female gender role were found to seek help more often and report greater feelings of helplessness.

Since the death of a loved one is to often viewed as a stressor or series of ongoing stressors, bereavement coping strategies typically resemble those commonly adopted to manage stressors of life in general (Folkman et al., 1986; Folkman, 1997). Coping approaches utilized such as positive appraisal, reframing, problem-focused decision-making, and active emotional processing are highly reflective of individual personality, experience, and preferred method of coping with stressors of daily living. Therefore, level of adjustment and success of coping with stressful events prior to bereavement should project response to death loss and extent of experienced bereavement distress throughout the bereavement process.

Predictors of Outcome

A discussion of bereavement outcome is necessary to establish a theoretical relationship between variables of adjustment and bereavement distress in the current literature. In order to make inferences about causal relationships between measures of these variables it is important for research to suggest changes in one predict changes in another. Significant findings may be used to guide interventions, future research, and the hypotheses for the current research study.

Correlates with bereavement outcome have included social withdrawal and support (Parkes, 1975; Allen & Hayslip, 2000; Vachon, Rogers, Lyall, Lancee, Sheldon, & Freeman, 1982), positive versus negative appraisals (Stein, Folkman, Trabasso, & Richards, 1997), and frequency of goal-oriented behavior (Stein et al., 1997; Kelly, Edwards, Synott, Neil, Baillie, & Battistutta, 1999). Vachon et al. (1982), after interviewing 162 widows, revealed perceptions of less social contact with individuals identified to be close friends prior to loss of spouse significantly predicts amount of bereavement distress two years following. Caregivers reporting more regular use of positive appraisals have been found to report significantly less depressed mood, significantly greater planning and goal-oriented behavior, and were more likely to express positive psychological

functioning when compared to individuals reporting frequent use of negative appraisals (Stein et al., 1997).

Adverse life events (Kelly et al., 1999) following bereavement and previous grief experiences are predictive of negative outcome. Reported levels of satisfaction with available help have been found to correlate with outcome (Vachon et al., 1982; Vachon et al., 1982). After experiencing an unexpected loss, individuals demonstrating low internal locus of control, suggesting perceptions of vulnerability and a lack of personal control, have been identified as a risk group (Stroebe et al., 1988).

The deleterious effects of bereavement have been found to persist 30 months after the death event (Thompson, Gallagher-Thompson, Futterman, Gilewski, & Peterson, 1991), mediated by the presence of depression and psychopathology. When compared to the non-bereaved, bereaved persons have been found to communicate significantly more somatic complaints, depressed mood, and loneliness (Gallagher, Breckenridge, Thompson, & Peterson, 1983; Thompson, Breckenridge, Gallagher, & Peterson, 1984). Participation in a church/temple was found to mediate level of depression reported among men with higher depression scores affiliated with non-participation (Siegal & Kuykendall, 1990). This relationship was not supported among female participants of the study.

Improved spiritual well being such as increased faith (Balk, 1999), emotional growth and development (Folkman, 1997), strengthening of social relationships (Vachon & Stylianos, 1988), and appreciation for the life of the deceased (Parkes, 1975; Wortman & Silver, 1990) are among the positive ramifications of bereavement. Death of spouse has been found to stimulate new spiritual interests, strengthen Christian values, and prompt greater trust in God and other people (Balk, 1999). Quite often, bereaved persons report more gratifying social and familial relationships following loss of spouse and demonstrate emotional openness and flexibility (Folkman, 1997; Vachon & Stylianos, 1988).

Causality in Bereavement Research

Considering bereavement research and models of grief and coping, the extent to which level of personal adjustment and bereavement distress exert influences upon one another has not been adequately demonstrated. The theories discussed above propose many factors of personal adjustment, family environment, and problem-solving behavior may actively mediate an individual's approach to stressful life events including bereavement. The effect of bereavement on level of depression (Gallagher et al., 1983), mortality (Lichtenstein, Gatz, & Berg, 1998), social detachment (Reed, 1993), and numerous other

indices of adaptation and adjustment is established. For example, Stroebe (1994) demonstrated the existence of a relationship between physical health factors and the experience of bereavement. However, the extent to which changes in one causes changes in the other is quite unclear. Many variables are found to adequately predict bereavement distress and outcome, but very few are proven to cause changes in bereavement distress and outcome.

For example, Lindstrom (1997) investigated the relationship between bereavement, coping, and physical health indicators and found coping strategies predicted the impact of bereavement on the physical health of grieving persons. In her study, Lindstrom (1997) defined coping as expecting to deal with bereavement in a manner producing a positive end result and appropriate recovery, a behavior Lindstrom (1997) called, "positive response outcome expectancies". Participants reporting more positive expectancies were more likely to report better health at the beginning of the study and at one-year following assessment.

Sprang, McNeil, & Wright (1993) modeled causes of grief reactions and extent among survivors of homicide victims. They found six variables exerted significant veritable effects on reported bereavement distress. Gender, income, religiosity, and marital status were the first four variables. Utilizing social support and amplitude of expressed grief through mourning also

exerted direct and significant influences on extent of grief. The importance of modeling these causal relationships is great, allowing researchers and practitioners to target areas of needed intervention. As Sprang et al. (1993) indicate, improvements in use of social support and mourning will impact extent of grief experienced by bereaved individuals to a positive degree.

Findings of research by Schoka and Hayslip (1999) indicated specific family variables exerted significant influences on experienced bereavement distress following the loss of a spouse or parent. Greater perceived family cohesion was found to predict fewer grief symptoms six months after initial assessment. Family affect and total Family Environment Scale (FES) scores 4 weeks after the death event were significantly more predictive of fewer grief symptoms than grief symptoms were predictive of family variables at 6-month follow-up. Thus, family functioning and adjustment dimensions exerted a causal influence on symptoms of bereavement distress.

Another informative and thorough study is provided by West, Sandler, Pillow, Baca, and Gersten (1991) modeling relationships between family system variables and symptoms of depression, anxiety, and conduct disorders among children bereaved of parent. After assessing five structural equation models, West et al. (1991) concluded parental distress, family warmth, and stable positive events mediated the impact of parental death as

measured by symptoms of psychopathology. Rather than death of parent exerting an independent effect on symptoms of participants or symptoms of participants causing problems in the family environment, factors of the family environment as specified above, when present following parental death, significantly influenced reported distress.

Purpose of the Present Study

A need to test the causal influence of personal adjustment on bereavement distress is apparent. The purpose of the current study is to assess the extent to which level of personal adjustment factors, such as depression, loneliness, and life satisfaction, mediate bereavement distress over time when compared to the extent to which bereavement distress mediates level of personal adjustment over time. Statistically, this purpose may be achieved using the cross-lagged panel correlation method (CLPC; Kenny, 1975).

According to Kenny (1975), cross-lagged analysis is "a test for spuriousness" (pp.888), assessing the extent to which the observed relationship between X and Y is due to the causal influence of either variable without existing under the effect of an additional variable Z. The third variable influence represents the alternative explanation, spuriousness, for the relationship observed and cross-lagged analyses attempts to

refute such alternative possibilities. For this reason the nature of cross-lagged panel correlation is quasi-experimental, in that statistical assessment of variables across time permits the ruling out of third variable influences much like random assignment of participants to treatment conditions allows in true experimental research (Campbell & Stanley, 1963).

In order for the null hypothesis to be retained in CLPC it is necessary for statistical analyses to demonstrate the relationship between the variables is due to a third variable influence rather than the causal effect of one the independent variable on the dependent variable (Kenny & Harckiewicz, 1979).

Research Hypotheses

Hypothesis 1

The current study predicted that adjustment scores at initial assessment will be significantly more predictive of bereavement distress at six-month follow-up than bereavement distress at initial testing will be as a predictor of adjustment at six-month follow-up.

Hypothesis 2

Similar to hypothesis 1, the level of adjustment observed among participants at Time 1 was expected to predict bereavement distress at Time 3 (3-year follow-up) to a more significant degree than bereavement distress at Time 1 predicts level of

adjustment observed at Time 3. Greater overall adjustment was posited to cause fewer problems related to grief experiences of participants evaluated 3 years after initial assessment.

Hypothesis 3

Measures of adjustment at Time 2 were expected to significantly predict amount of bereavement distress at Time 3 rather than bereavement distress at Time 2 significantly predicting adjustment at Time 3.

CHAPTER II

METHOD

Participants

Participants of the original research sample (Allen & Hayslip, 2000; Hayslip, Allen, & McCoy-Roberts, 2000) responded to newspaper bulletins and senior citizen community newsletters posted in 1988. Widowhood associations and local bereavement support organizations were contacted in order to announce the purpose of the original study and the need for volunteer participants. A total of 193 persons expressed interest and agreed to participate, many currently attending or previously attended a bereavement support group (58%). Of the total, a significant proportion pursued psychological or psychiatric care concerning their grief experiences at some point following the death of their relative.

Within the overall group, 46 individuals had been bereaved of a close relative other than spouse and 147 individuals were bereaved of spouse, a small number widowed for the second time. In light of the purpose of the current study, only information obtained from the 147 conjugally bereaved individuals was utilized and complete data across all three times of testing were available for 125 participants.

The median length of bereavement pertaining, according to self-report, was in between one and two years for participants

in the research sample with each participant having experienced their loss under ten years prior to contact.

The average age for participants was 62.5 years and ages ranged from 20 to 82 years. According to individual report, lengths of marriage to deceased spouse ranged from 1 to 55 years with a mean of 30 years and approximately 3 months. About one quarter of the sample had been married a second time.

Of the 125 participants, most were female (90%) and described themselves to be of religious orientation (Protestant, 71%; Catholic, 16%) and a small group identified themselves as Jewish. Most of the research sample identified receiving some college education. At the time of survey many participants were retired, a smaller number worked part-time or full-time, and some were unemployed. Homemaker and "other" were also recounted occupations. Among participants the most frequently cited range of total family income was $16,000 to $25,000 per year, ranging from under $5,000 to an excess of $50,000 per year.

Of the original 147 participant sample, 22 individuals withdrew from the study before the third assessment period three years later (Hayslip, McCoy-Roberts, & Pavur, 1998-1999). Those completing the study were found by Hayslip et al. (1998-1999) to be older in age, had experienced more psychological turmoil surrounding the death, and had reported significant depression early in the study. Furthermore, those completing the six-month

follow-up had experienced their respective loss in more recent months than individuals opting to withdraw prior to six months.

Analyses of the three-year follow-up data by Hayslip et al. (2000) provided additional and relevant information. Completing participants were older and more recently bereaved and demonstrated more significant adjustment problems, negative mood states, and higher level of education than individuals choosing to remove themselves from the investigation. Completing participants also reported fewer symptoms of depression during original assessments than individuals selecting to withdraw prior to three-year evaluation. Thus, due to changes in the sample across time, follow-up data is susceptible to restriction in range for variables such as depression and level of adjustment.

Instruments

Variable 1: Adjustment

Profile of Mood States (POMS). This 36-item instrument requires an individual to respond to adjectives as indicative of their current mood or not indicative. Examples of test adjectives are, “Angry”, “On edge”, Sluggish”, and “Resentful”. Respondents are asked to communicate the extent to which each word describes their experiences in the past seven days on a four-point scale from, “Not at all-0” to “Extremely-3”. Factor analyses support five factors identified to be: tension/anxiety,

anger/hostility, depression/dejection, fatigue/inertia, and vigor/activity. Studies utilizing the POMS as a measure of mood state among collegiate athletes found the instrument to demonstrate adequate internal consistency reliability (Henderson, LeUnes, & Bougeois, 1997). According to McNair and Lorr, (1964), the designers of the POMS, the measure is a reliable and valid indicator of mood. Kuder-Richardson reliabilities have been observed to exceed .90 on three of the POMS factors (McNair & Lorr, 1964). Significantly high scores across all POMS scales except Vigor/Activity lend evidence for the presence of mood discomfort. Low scores on the Vigor/Activity scale indicate mood concerns of similar proportion to elevated marks across the other four dimensions of the POMS.

The Beck Depression Inventory (BDI). The 21-item BDI is a popular self-report measure of depressive symptoms believed to be time-of-administration specific and of a concrete, behavioral nature. Since conception of the scale in 1961 (Beck, Ward, Mendelson, Mock, & Erbaugh, 1961), the BDI has been widely applied to both research and clinical settings and receives much empirical support for accuracy when differentiating between depressed and non-depressed persons (Beck et al., 1961). The authors report high reliability and validity figures across many diverse samples, including adequate split-half reliability

(Pearson = .86). Respondents are asked to identify with one of four conceptually similar, severity variant statements such as, "I do not feel sad" (0), "I feel sad" (1), "I am sad all the time and can't snap out of it" (2) or, "I am so sad or unhappy that I can't stand it" (3). The number corresponding to each statement represents points awarded if selected and higher total BDI scores are associated with higher levels of reported depression.

Revised UCLA Loneliness Scale. This assessment tool is composed of 20 items designed to identify feelings of abandonment, depression, emptiness, isolation, self-enclosure, lack of satisfaction, and lack of social desire. Respondents are instructed to identify the frequency with which specified self-statements apply to their lives, either never, rarely, sometimes, or often. For example, "I lack companionship" and, "I am an outgoing person" are two sample items from the scale utilized. Greater scores on this scale are associated with greater perceived loneliness, isolation, dissatisfaction, and social avoidance. Previous research ascertained an internal consistency reliability coefficient (Cronbach's alpha) of .90 (Russell, Peplau, & Curtona, 1980)

Life Satisfaction Index - Z (LSI-Z). The Z-form of the LSI is a shortened and revised variant of the original Life Satisfaction Index Form A (LSI-A) by Neugarten, Havighurst, and

Tobin (1961). For the current study Form Z of the LSI was condensed to 13 externally valid and appropriate items yielding a Cronbach's alpha internal consistency reliability coefficient of .79 (Allen, 1990). Selected items provide indicators of personal perceptions concerning overall life satisfaction by instructing the respondent to answer agree, disagree, or not sure. Item examples include, "This is the dearest time of my life" and, "As I look back on my life, I am fairly well satisfied". Individuals receiving higher scores on the LSI are described as perceiving and experiencing greater life satisfaction.

Hopkins Symptom Checklist (HSCL). As a self-report measure, the current HSCL is comprised of 56 items anchored upon a four-point scale indicating level of distress experienced in the last seven days related to the situation presented in the item. Examples include symptom-related statements such as, "Headaches", "Feeling critical of others, "Poor appetite", and "Your feelings being hurt easily". High scores on the HSCL indicate a greater number of reported symptoms pertaining to the dimensions covered. Though originally developed by Parloff, Kelman, and Frank (1954), the most recent version of the HSCL is the product of several revisions and expansions (Lipman, Cole, Park, & Rickels, 1965; Uhlenhuth, Rickels, Fisher, park, Lipman, & Mock, 1966). Through factor analytic procedures, five scales

have emerged to adequately explain symptoms reported: somatization, obsessive-compulsive, anxiety, interpersonal sensitivity, and depression (Derogatis, Lipman, Covi, & Rickels, 1971). Research to date identifies Cronbach's coefficient alphas across HSCL dimensions ranging from .84 for the anxiety scale to .87 for the somatization scale (Derogatis, Lipman, Rickels, Uhlenhuth, & Covi, 1974). For the purposes of the present study, 44 items have been retained from the 58-item instrument as recommended by Derogatis and his colleagues (1974).

Revised Guttman Self-Esteem Scale (GSES). The current ten-item instrument was revised by Rosenberg in 1965 and carries a test-retest reliability coefficient of .92. Sample statements include, "I wish I could have more respect for myself', On the whole, I am satisfied with myself", and "I feel I do not have much to be proud of". Respondents are instructed to communicate the extent to which each statement describes their perceptions on a five-point scale ranging from, "Strongly Agree-1" to "Strongly Disagree-5". Individuals experiencing high and positive levels of personal worth, acceptance, and contentment are expected to score significantly higher on this measure of self-esteem than individuals experiencing dissatisfaction with self, personal dejection, and a lack of vitality.

Variable 2: Bereavement distress

The Bereavement Experience Questionnaire (BEQ) - The 67 items of the BEQ are structured using Likert-type scaling and load along eight dimensions of bereavement experience including: guilt, anger, yearning, depersonalization, stigma, morbid fears, meaninglessness, isolation. Individuals completing the form are encouraged to communicate the frequency (Never, Sometimes, Often, Almost Always) with which they have faced specific feelings, thoughts, and experiences within the previous four weeks. "Felt angry at friends", "Thought I saw the deceased person", "Felt guilty when I enjoyed myself", and "Lost my religious faith" are several examples of BEQ items. Endorsing high frequency results in higher scores and indicates greater bereavement distress. Conway, Hayslip, and Tandy (1991) utilized the BEQ when comparing bereavement experiences of widows and treating professionals. Their personal contact with the authors of the BEQ indicated acceptable validity and reliability. Furthermore, their study found the BEQ to help differentiate between the beliefs and experiences of widowed persons and helping professionals (Conway et al., 1991).

Cognitive, Social, Affective, and Behavioral Strategies. This domain reflects the total number of cognitive, social, affective, and behavioral coping strategies utilized as reported by the Coping Competence Scale (CCS), an instrument developed by

Allen (1990). The items of the CCS identify specific approaches to coping and require the respondent to report (a) whether the approach had been utilized prior to the loss of their spouse to cope with another major life adjustment, (b) perceived helpfulness of the strategy, (c) if the strategy was used to cope with bereavement, and (d) perceived success of strategy in coping with bereavement. Items are grouped into seven coping categories including the four cited above, in addition to: seeking support and guidance, focus on spouse, and denial/avoidance. According to Allen (1990), the four categories adopted for the current study are considered to be the most adaptive strategies when coping with conjugal bereavement.

The Impact of Loss Questionnaire. An instrument constructed by Allen (1990) asking respondents to provide information concerning (a) the centrality of the lost relationship, (b) perceived preventability of the death, (c) the extent of life change pertaining to the loss, and (d) the extent to which the death was expected. These four domains are found to be strong indicators of bereavement outcome and recovery (Allen, 1990; Parkes, 1975; Raphael, 1983). Respondents are instructed to rate the applicability of statements to their experience on a five-point scale from “Very True-1” to “Very Untrue-5”. Items include, “My spouse was the main focus of my life” and “I had

plenty of time to prepare for my spouse's death". Higher scores correspond to greater impact of loss.

The Coping Self-Efficacy Scale (CSES). This 28-item measure was constructed by Allen (1990) and is comprised of statements related to tasks of grieving. Examples include, "I can be hopeful about the future", I am confident in my ability to sleep through each night", and "I believe I can appreciate my life more fully than ever before". A panel of psychologists selected items believed to relate directly to bereavement and rated the level of difficulty completing the task for the "average" grieving person. Level one is identified as "not difficult for most persons", level two corresponds to tasks considered "moderately difficult for most persons", and level three entails tasks rated "highly difficult for most persons". Respondents are instructed to answer "mostly true" to tasks they believe they could negotiate successfully and points are awarded based on the rated difficulty of the coping situation. Cronbach's alpha coefficients are .71, .81, and .89 across the three levels, respectively. Higher scores reflect higher reported self-efficacy.

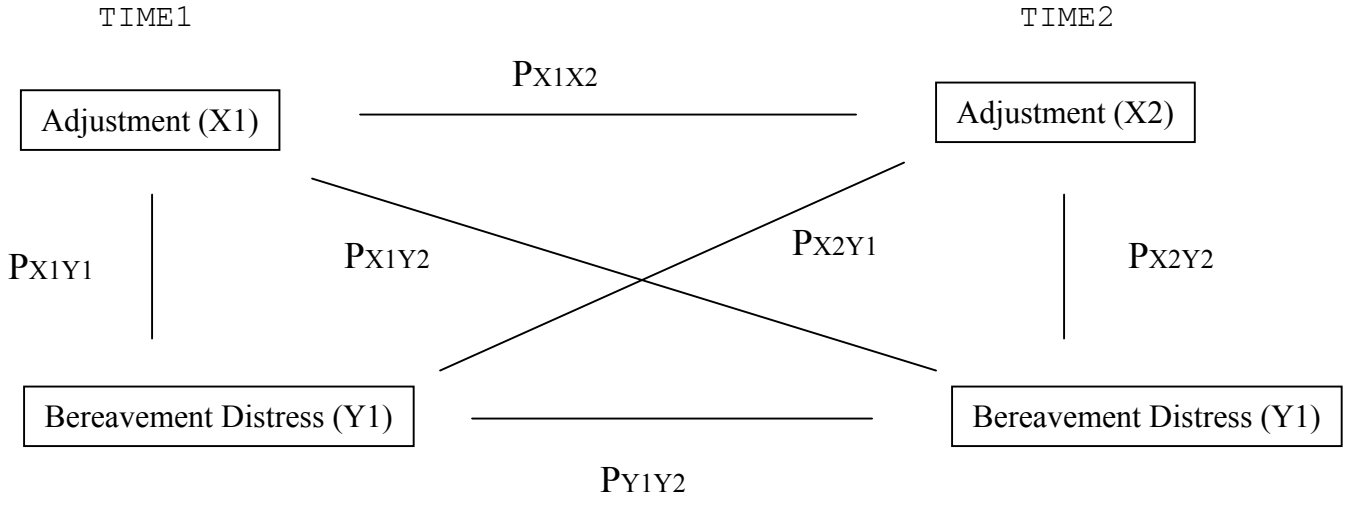
Design

The research hypotheses were assessed using three causal models. Each model were tested via cross-lagged panel

correlation (CLPC; Kenny, 1975), a quasi-experimental research design. Measured covariations concerning adjustment and bereavement distress between times of testing (cross-lagged correlations) and within times of testing (synchronous correlations) in addition to correlations between the same variable across test times (autocorrelations) constituted the analytic panels. This design is illustrated in Figure 1 below concerning Time 1 and Time 2 data. Analogous designs were employed assessing Time 1/Time 3 data and Time 2/Time 3 data.

Figure 1

Cross-lagged panel correlation design for adjustment and bereavement distress involving Time 1 and Time 2



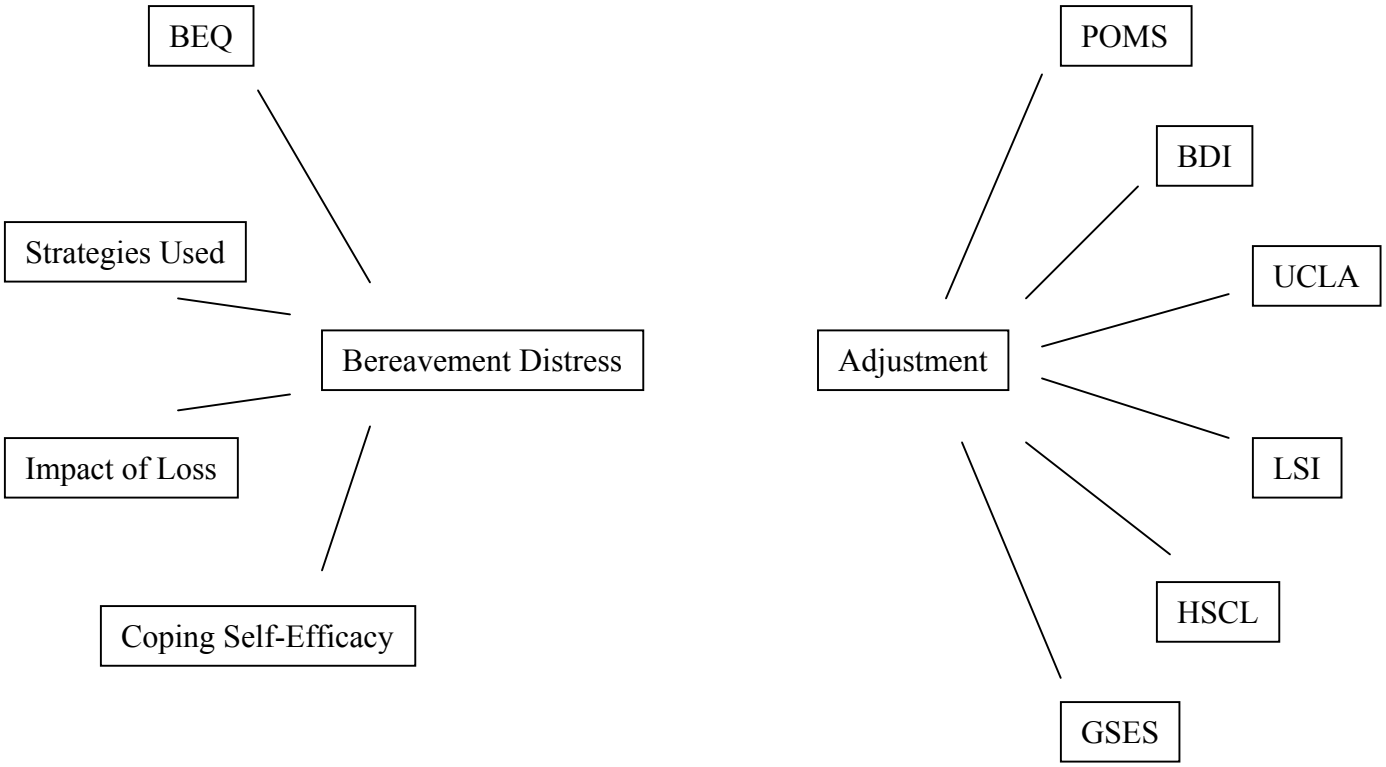
* Where PX1Y1 = Correlation between adjustment and bereavement distress at Time 1.

Prior to an investigation of research hypotheses, six exploratory factor analyses were conducted addressing the measured variables. These procedures were conducted to determine if the measures of adjustment were indicators of one factor and if measures of bereavement distress were indicators of one factor. Figure 2 below illustrates the hypothesized indicators for each variable.

Results of the exploratory factor analyses revealed that all six indicators of adjustment loaded on a single adjustment factor at each time of measurement. Analyses of bereavement indicators suggest all measures except the CSES loaded on a single bereavement distress factor at each time of measurement. Since the CSES was administered at Times 1 and 2, the composite bereavement score at these times of measurement did not include CSES data.

Figure 2

Indicators of Adjustment and indicators of Bereavement Distress



Procedure

As described above, individuals involved in the current study were recruited using published bereavement newsletters, bulletins, and announcements offered at grief groups and bereavement organizations. After communicating their desire to volunteer, recruits were sent a packet of information with explanation of the study, informed consent papers, relevant instructions, and each of the instruments outlined in prior segments. Participants were sent thank you letters for their willingness to sacrifice time and share their experiences.

Follow-up packets were mailed to participants six months after the initial set of measures were completed.

At the third time of testing individuals included in the original investigation were contacted by mail and the proportion willing to continue in the study were sent instruments and returned completed measures. These instruments were sent three years after the initiation of the research study. With the addition of the three data set, self-reports and forms were now available at three times of administration: Initial (Time 1), Six-month follow-up (Time 2), and Three-year follow-up (Time 3). At Time 3, participants were also encouraged to inform researchers of any additional death loss experienced since their prior involvement (Time 2). If a more recent bereavement had been experienced, the participant concerned was instructed to base current reports upon the more recent experience.

Once data were collected, correlation coefficients between all variables were attained and subsequent cross-lagged panel analyses were completed by hand and causal influences determined. Analyses were restricted to individuals with complete data across Times 1, 2, & 3 (125 participants).

CHAPTER III

RESULTS

Correlations were derived concerning all indicators of adjustment and bereavement distress and are provided in Table 1.

Table 1

Correlations for indicators of Bereavement Distress and Adjustment

Variable	1	2	3	**4**	**5**	**6**	7	8	9	10	11	12	13	14	15
1 UCLA	1.0														
2 XUCLA	.75	1.0													
3 YUCLA	.67	.74	1.0												
4 BEQ	.68	.49	.49	1.0											
5 XBEQ	.61	.62	.54	.81	1.0										
6 YBEQ	.50	.49	.67	.66	.69	1.0									
7 POMS	.60	.47	.48	.68	.59	.56	1.0								
8 XPOMS	.65	.71	.62	.59	.63	.59	.77	1.0							
9 YPOMS	.44	.49	.66	.42	.42	.67	.60	.74	1.0						
10 LSI	.60	.56	.43	.59	.53	.46	.63	.59	.49	1.0					
11 XLSI	.61	.68	.48	.51.	.53	.43	.59	.70	.52	.74	1.0				
12 YLSI	.39	.45	.66	46	.42	.62	.55	.64	.78	.56	.60	1.0			
13 HSC	.57	.45	.45	.59	.51	.56	.78	.69	.57	.55	.51	.53	1.0		
14 XHSC	.64	.65	.52	.59	.61	.53	.71	.82	.60	.58	.65	.56	.81	1.0	
15 YHSC	.32	.41	.55	.34	.41	.57	.57	.63	.76	.31	.41	.57	.62	.54	1.0
16 BDI	.62	.44	.45	.70	.58	.52	.75	.60	.39	.66	.52	.50	.77	.65	.42
17 XBDI	.61	.66	.54	.58	.65	.52	.57	.75	.43	.64	.68	.53	.66	.75	.44
18 YBDI	.54	.54	.73	.47	.48	.68	.50	.62	.63	.42	.49	.63	.50	.58	.63
19 CSAB	-.01	.03	.10	.13	.09	.19	.05	.05	.02	-.07	.01	.08	.08	-.02	.18
20 XCSAB	.12	.20	.19	.17	.19	.12	.12	.10	.08	.16	.06	.21	.14	.15	.05
21 YCSAB	-.03	.10	.15	.25	.26	.27	.12	.04	.06	.02	-.04	.06	.09	-.01	.15
22 CSES	-.39	-.42	-.31	-.22	-.24	-.28	-.45	-.53	-.32	-.47	-.57	-.32	-.46	-.54	-.37
23 XCSES	-.38	-.42	-.56	-.18	-.19	-.41	-.34	-.52	-.54	-.37	-.46	-.49	-.40	-.42	-.51
24 IOLQ	.34	.37	.30	.41	.50	.46	.26	.34	.24	.30	.23	.16	.24	.31	.21
25 XIOLQ	.45	.44	.34	.45	.53	.42	.37	.37	.16	.38	.34	.16	.28	.37	.11
26 YIOLQ	.49	.51	.45	.53	.62	.51	.41	.46	.30	.40	.38	.35	.30	.43	.26
27 RSES	-.59	-.58	-.52	-.51	-.59	-.54	-.53	-.60	-.39	-.55	-.65	-.48	-.58	-.63	-.33
28 XRSES	-.31	-.33	-.47	-.33	-.34	-.55	-.30	-.37	-.54	-.28	-.40	-.43	-.33	-.31	-.42

* indicators of bereavement distress in bold

Table 1 (continued)

Variable	16	17	18	**19**	**20**	**21**	**22**	**23**	**24**	**25**	**26**	27	28
16 BDI	1.0												
17 XBDI	.73	1.0											
18 YBDI	.61	.68	1.0										
19 CSAB	.05	.05	.06	1.0									
20 XCSAB	.11	.12	.03	.18	1.0								
21 YCSAB	.05	.01	-.07	.63	.45	1.0							
22 CSES	-.48	-.64	-.47	.01	.05	.16	1.0						
23 XCSES	-.41	-.56	-.65	.06	.05	.15	.66	1.0					
24 IOLQ	.28	.30	.24	.23	.06	.37	-.16	-.01	1.0				
25 XIOLQ	.36	.36	.26	.17	.26	.30	-.26	.02	.87	1.0			
26 YIOLQ	.44	.43	.36	.17	.15	.35	-.31	-.10	.85	.84	1.0		
27 RSES	-.60	-.66	-.57	-.08	-.20	-.00	.50	.51	-.33	-.35	-.37	1.0	
28 XRSES	-.29	-.39	-.52	-.12	-.08	.01	.31	.46	-.16	-.12	-.14	.66	1.0

* indicators of bereavement distress in bold

The correlation coefficients were used as data points and 16 panels were derived from the correlation matrix for each indicator of bereavement distress. Due to the stability of coefficients between constructs at each time of testing, corrections for variations in such correlations were not necessary as suggested by Kenny (1975).

Bereavement Indicator: Bereavement Experiences Questionnaire

Cross-lagged differentials and the results of significance tests for overall score on the Bereavement Experiences Questionnaire across each indicator of adjustment are provided in Table 2 below. Positive z-scores reflect direction of influence from adjustment to bereavement distress and negative

z-scores indicate direction of influence from bereavement distress to adjustment.

Table 2

Cross-lagged correlation differentials, z-scores, and p-values for the Bereavement Experiences Questionnaire across indicators of Adjustment

Assessment Times	Adjustment Indicator	Bereavement Indicator	Cross-lagged Correlation differential	z-score	p-value
Time1/Time2	UCLA	BEQ	0.110	1.687	**0.046**
Time2/Time3	UCLA	BEQ	-0.050	-0.879	0.192
Time1/Time3	UCLA	BEQ	0.010	0.164	0.400
Time1/Time2	POMS	BEQ	-.004	-0.107	0.460
Time2/Time3	POMS	BEQ	0.166	2.250	**0.012**
Time1/Time3	POMS	BEQ	0.142	2.241	**0.013**
Time1/Time2	LSI	BEQ	-0.019	-0.284	0.390
Time2/Time3	LSI	BEQ	0.067	0.080	0.468
Time1/Time3	LSI	BEQ	0.005	0.006	0.500
Time1/Time2	HSC	BEQ	-0.083	-1.355	0.087
Time2/Time3	HSC	BEQ	0.127	1.576	0.057
Time1/Time3	HSC	BEQ	0.210	2.609	**0.005**
Time1/Time2	BDI	BEQ	-0.002	-0.032	0.488
Time2/Time3	BDI	BEQ	0.044	0.604	0.274
Time1/Time3	BDI	BEQ	0.046	0.620	0.268
Time1/Time2	RSES	BEQ	-0.264	-3.800	**0.001**

* statistically significant p-values in bold

As observed in the previous table, the cross-lagged correlation between UCLA overall score at Time 1 and BEQ score at Time 2 was significantly greater than the cross-lagged

correlation between overall BEQ score at Time 1 and UCLA score at Time 2 ($Z = 1.687$, $p = 0.046$).

The correlations between overall POMS scores at Times 1 and 2 with BEQ total at Time 3 are significantly greater than the correlations between BEQ total at Times 1 and 2 and POMS score at Time 3 ($Z = 2.250$, $p = 0.012$ & $Z = 2.241$, $p = 0.013$, respectively).

In a similar way, the correlation between overall HSC score at Time 1 and overall BEQ score at Time 3 and significantly greater than the correlation between overall BEQ score at Time 1 and overall HSC score at Time 3 ($Z = 2.609$, $p = 0.005$).

The correlation between overall RSES score at Time 1 and BEQ total at Time 2 is significantly less than the correlation between BEQ total at Time 1 and overall RSES score at Time 2 ($Z = -3.800$, $p < 0.001$).

Concerning the relationships between overall BEQ score and overall scores on the UCLA, POMS, and HSC, all correlations were positive, indicating increases in scores across the three indicators of adjustment were causally related to increases in scores on the BEQ. Likewise, decreases in UCLA, POMS, and HSC scores precipitated decreases in BEQ scores. The negative relationship between BEQ score and RSES score suggests increases in BEQ ratings cause decreases in RSES ratings, a self-report

measure of self-esteem. Likewise, decreases in BEQ ratings lead to increases in scores on the RSES.

It is important to note that causal relationships were not found between several adjustment indicators and the BEQ despite high correlations. Specifically, LSI, HSC, and BDI scores were strongly correlated with BEQ scores, but each variable was equally predictive of the other. Under these circumstances, factors reflected by each construct were exerting influence on the other

Bereavement Indicator 2: Cognitive, Social, Affective, and Behavioral Strategies

Differences in cross-lagged coefficients between the CSAB and each indicator of adjustment are provided in Table 3 below.

Table 3

Cross-lagged correlation differentials, z-scores, and p-values for Cognitive, Social, Affective, and Behavioral Strategies related to bereavement across indicators of Adjustment

Assessment Times	Adjustment Indicator	Bereavement Distress Indicator	Cross-lagged Correlation differential	z-score	p-value
Time1/Time2	UCLA	CSAB	0.088	0.753	0.227
Time2/Time3	UCLA	CSAB	-0.093	-0.801	0.212
Time1/Time3	UCLA	CSAB	-0.137	-1.428	0.076
Time1/Time2	POMS	CSAB	0.680	0.584	0.281
Time2/Time3	POMS	CSAB	-0.047	-0.394	0.348
Time1/Time3	POMS	CSAB	0.098	0.901	0.184
Time1/Time2	LSI	CSAB	0.157	1.355	0.087
Time2/Time3	LSI	CSAB	-0.243	-2.301	**0.011**
Time1/Time3	LSI	CSAB	-0.062	-0.613	0.271
Time1/Time2	HSC	CSAB	0.156	1.347	0.088
Time2/Time3	HSC	CSAB	-0.062	-0.571	0.284
Time1/Time3	HSC	CSAB	-0.085	-0.876	0.189
Time1/Time2	BDI	CSAB	0.065	0.556	0.288
Time2/Time3	BDI	CSAB	-0.025	-0.198	0.421
Time1/Time3	BDI	CSAB	-0.015	-0.153	0.440
Time1/Time2	RSES	CSAB	0.078	0.654	0.258

* statistically significant p-values in bold

One cross-lagged differential was significant involving the CSAB. Specifically, the cross-lagged correlation between overall CSAB score at Time 2 and overall LSI score at Time 3 was significantly greater than the cross-lagged correlation between overall LSI score at Time 2 and overall CSAB score at Time 3 (Z

= -2.301, p = 0.011). Reliability was consistent from Time 2 to Time 3 and therefore, corrections for a lack thereof were not performed. The relationship is positive and reflects the causal influence of strategies reported at Time 2 on level of life satisfaction reported at Time 3.

Table 4

Cross-lagged correlation differentials, z-scores, and p-values for the Impact of Loss Questionnaire across indicators of Adjustment

Assessment Times	Adjustment Indicator	Bereavement Distress Indicator	Cross-lagged Correlation differential	z-score	p-value
Time1/Time2	UCLA	IOLQ	0.083	1.261	0.104
Time2/Time3	UCLA	IOLQ	0.164	2.390	**0.008**
Time1/Time3	UCLA	IOLQ	0.183	2.450	**0.007**
Time1/Time2	POMS	IOLQ	0.035	0.543	0.295
Time2/Time3	POMS	IOLQ	0.300	4.187	**0.001**
Time1/Time3	POMS	IOLQ	0.168	2.089	**0.018**
Time1/Time2	LSI	IOLQ	0.144	2.015	**0.021**
Time2/Time3	LSI	IOLQ	0.226	2.685	**0.004**
Time1/Time3	LSI	IOLQ	0.240	2.792	**0.003**
Time1/Time2	HSC	IOLQ	-0.033	-0.492	0.312
Time2/Time3	HSC	IOLQ	0.329	3.811	**0.001**
Time1/Time3	HSC	IOLQ	0.093	1.121	0.131
Time1/Time2	BDI	IOLQ	0.061	0.868	0.192
Time2/Time3	BDI	IOLQ	0.165	2.173	**0.015**
Time1/Time3	BDI	IOLQ	0.194	2.421	**0.008**
Time1/Time2	RSES	IOLQ	0.186	2.399	**0.008**

* statistically significant p-values in bold

Bereavement Indicator 3: Impact of Loss Questionnaire (IOLQ)

Indicators of adjustment were correlated with the Impact of Loss Questionnaire, the third indicator of bereavement distress, across all three times of testing and relevant data are available in Table 4 above.

The cross-lagged correlations involving UCLA score at Times 1 and 2 and IOLQ score at Time 3 were significantly greater than cross-lagged correlations involving IOLQ score at Times 1 and 2 and UCLA score at Time3 ($Z = 2.390$, $p = 0.008$ & $Z = 2.450$, $p = 0.007$, respectively). The significant cross-lag differentials indicate that factors associated with increased scores on the UCLA at Times 1 and 2, namely adjustment issues, lead to increases in scores on the IOLQ at Time 3.

Measures of adjustment using the POMS at Times 1 and 2 exerted similar positive influence on overall IOLQ score at Time 3 ($Z = 4.187$, $p = 0.001$ & $Z = 2.089$, $p = 0.018$). Results indicate overall POMS score at the first two times of assessment were significantly more predictive of IOLQ score at Time 2 than were overall IOLQ score at Times 1 and 2 predictive of overall POMS score at Time 3. Participant scores on the LSI at Time 1 were causally related to participant scores on the IOLQ at Time 2 ($Z = 2.015$, $p = 0.021$) and Time 3 ($Z = 2.792$, $p = 0.003$). Overall LSI score at Time 2 was significantly more predictive of

IOLQ at Time 3 than overall IOLQ score at Time 2 was predictive of LSI score at Time 3 ($Z = 2.685$, $p = 0.004$).

The cross-lagged correlation between HSC score at Time 2 and IOLQ score at Time 3 was significantly greater than the cross-lagged correlation between IOLQ score at Time2 and HSC score at Time 3 ($Z = 3.811$, $p = 0.001$). Increases in HSC score at Time 2 caused increases in IOLQ score at Time 3, reflected the impact of life satisfaction, as a measure of adjustment, at Time 2 on the impact of loss, as a measure of bereavement distress, at Time 3.

BDI ratings at Times 1 and 2 were significantly more predictive of IOLQ score at Time 3 than were IOLQ scores at Times 1 and 2 predictive of BDI score at Time 3 ($Z = 2.173$, $p = 0.015$ & $Z = 2.421$, $p = 0.008$, respectively). Results suggest factors reflected in the BDI exerted a causal influence on issues reported on the LSI. In a similar way, RSES score at Time 1, as a report of self-esteem, precipitated greater impact of loss as measured by the IOLQ at Time 2 ($Z = 2.399$, $p = 0.008$).

Coping Self-Efficacy Scale (CSES)

The fourth and final measure of bereavement, the (CSES), was administered at Times 1 and 2 and cross-lagged comparisons were completed across each indicator of adjustment. Since CSES data were collected at two assessment periods, only one panel is

generated for each variable pairing. Relevant data are provided in Table 5 below.

Table 5

Cross-lagged correlation differentials, z-scores, and p-values for the Coping Self-Efficacy Scale (CSES) across indicators of Adjustment

Assessment Times	Adjustment Indicator	Bereavement Distress Indicator	Cross-lagged Correlation differential	z-score	p-value
Time1/Time2	UCLA	CSES	-0.037	-0.464	0.299
Time1/Time2	POMS	CSES	-0.187	-2.390	**0.008**
Time1/Time2	LSI	CSES	-0.199	-2.618	**0.004**
Time1/Time2	HSC	CSES	-0.133	-1.845	**0.035**
Time1/Time2	BDI	CSES	-0.222	-2.944	**0.001**
Time1/Time2	RSES	CSES	0.200	2.417	**0.008**

* statistically significant p-values in bold

CSES score obtained at Time 1 were more predictive of POMS score at Time 2 than POMS score at Time 1 was predictive of CSES score at Time 2 ($Z = -2.390$, $p = 0.008$). Similar causal influences were found for the LSI ($Z = -2.618$, $p = 0.004$), HSC ($Z = -1.845$, $p = 0.035$), and BDI ($Z = -2.944$, $p = 0.001$). Based on data analyses, CSES score at Time 1 is more strongly predictive of measures of adjustment at Time 2 than are measures of adjustment at Time 1 predictors of CSES scores at Time 2.

Results suggest factors measured by the CSES exert a causal influence on factors measured by each indicator of adjustment except the UCLA where no causal relationship is observed and the RSES where an opposite causal influence is evident ($Z = 2.417$, $p = 0.008$). It is likely the nature of the CSES and the factors is it designed to assess distinguish it from other measures of bereavement distress. Specifically, coping self-efficacy evaluations reflect personal predictions about adjustment abilities and thus, significantly predict and influence measures of adjustment. The opposite is true involving RSES and CSES scores.

Panel analyses indicate increases in self-esteem cause increases in coping self-efficacy. This is to be expected since participants with greater confidence in their personal adjustment skills will report more positive coping success expectancies.

Overall Adjustment and Indices of Grief

At each test period an overall Adjustment index (Adjust) was derived using the sum of the five indicators of adjustment common to each assessment. An overall bereavement distress index (Bereave) was derived using the sum of the three indicators of bereavement common to each assessment period. Composite scores minimize Type I error, decreasing the likelihood of finding a significant effect by chance since a single panel analysis is

derived to compare constructs from one time of testing to another. While the specific measure analyses are beneficial and informative, the 16 panels increase family-wise error and increase the possibility of determining a significant effect where one is not present.

Correlation coefficients for these composite indices are provided in Table 6. Cross-lagged differentials, z-scores, and p-values for Adjustment by Bereavement Distress panel analysis are found in Table 7.

Table 6

Correlation coefficients for overall Adjustment and overall Bereavement Distress indices

Variable	Adjust1	Adjust2	Adjust3	Bereave1	Bereave2	Bereave3
Adjust1	1.0					
Adjust2	.85	1.0				
Adjust3	.70	.76	1.0			
Bereave1	.66	.58	.43	1.0		
Bereave2	.62	.64	.43	.85	1.0	
Bereave3	.62	.59	.60	.80	.81	1.0

Table 7

Cross-lagged correlation differentials, z-scores, and p-values for overall Bereavement Distress index and overall Adjustment index

Assessment Times	Adjustment Indicator	Bereavement Distress Indicator	Cross-lagged Correlation differential	z-score	p-value
Time1/Time2	Adjust	Bereave	0.042	0.789	0.221
Time2/Time3	Adjust	Bereave	0.158	2.355	**0.009**
Time1/Time3	Adjust	Bereave	0.184	2.654	**0.004**

The composite Adjustment scores at Times 1 and 2 were significantly more predictive of the composite bereavement score at Time 3 than the composite bereavement scores at Times 1 and 2 were predictive of overall adjustment at Time 3 ($Z = 2.335$, $p = 0.009$ & $Z = 2.654$, $p = 0.004$, respectively). The cross-lagged correlations were positive and indicate a strong causal influence of degree of adjustment reported at the first two assessment periods on reported bereavement distress at the third assessment time.

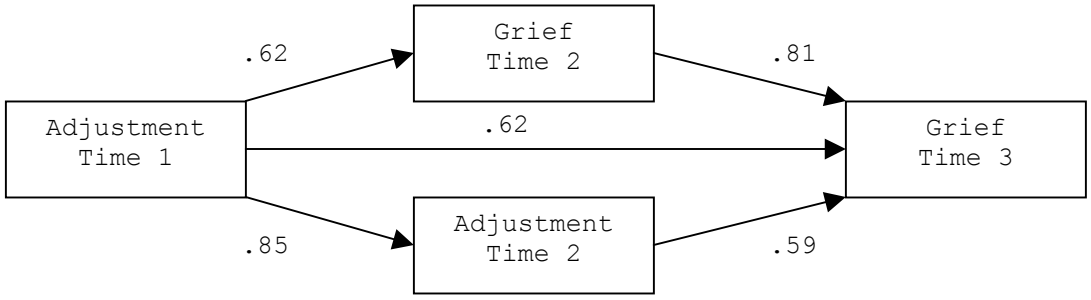
In summary, results indicate adjustment factors exert a casual influence on the magnitude of bereavement distress experienced by grieving individuals after the loss of their spouse. Specifically, participants reporting greater adjustment early in the grieving process later reported less bereavement

distress than participants indicating less adjustment early in the study. This relationship was most evident concerning the "impact of loss" on the lives of participants. Good adjustment at Times 1 and 2 resulted in less catastrophic "impact of loss" at three-year follow-up.

It is important to note that analyses between Time 1 and Time 3 probably reflect the mediating influence of the relationship between Time 2 and Time 3 scores. Either adjustment or bereavement distress scores at Time 2 may be a spurious influence on the relationship between Time 1 and Time 3 scores. Likewise, Time 1 scores may exert a similar influence on the relationship between Time 2 and Time 3 scores. Ultimately, this suggests a causal model where both Time 1 and Time 2 mediate the influence of each on Time 3, as illustrated in Figure 3 below.

Figure 3

Causal model diagramming adjustment and bereavement distress indicators across three times of testing



Factor analyses indicate each measure of adjustment loads on a single adjustment factor and that all bereavement distress measures except the CSES load on a single bereavement factor. For this reason composite scores were generated and panel analyses demonstrated overall personal adjustment significantly influenced overall bereavement distress. The causal influence was most notable from Time 1 to Time 3 and Time 2 to Time 3.

CHAPTER IV

DISCUSSION

Recent research indicates multiple social, interpersonal, and individual factors interact with the course of grief and that multiple grief-related issues tend to mediate personal and interpersonal experiences of the bereaved (Folkman, 1997; Lindstrom, 1997). The purpose of the current study was to determine the extent to which personal adjustment factors influence the experience of bereavement distress following loss of a spouse. Results of the current study provide evidence to support research hypotheses in that adjustment factors measured by adjustment instruments did influence bereavement distress as reflected by bereavement measure scores. A summary of results is provided in Table 8 below.

Table 8

Summary of significant causal relationships observed between adjustment and bereavement distress indicators

Predicting Variable	**Predicted Variable**	
Time 1 – Adjustment	Time 2 – Grief	Time 3 - Grief
UCLA – Loneliness	BEQ	IOLQ
Profile of Mood States		BEQ, IOLQ
Life Satisfaction Index	IOLQ	IOLQ
Hopkins Symptom Checklist		BEQ
Beck Depression Inventory		IOLQ
Revised Self-Esteem Scale	IOLQ, CSES	-
Overall Adjustment Index		Overall Grief Index
Time 2- Adjustment		
UCLA – Loneliness	-	IOLQ
Profile of Mood States	-	BEQ, IOLQ
Life Satisfaction Index	-	IOLQ
Hopkins Symptom Checklist	-	IOLQ
Beck Depression Inventory	-	IOLQ
Revised Self-Esteem Scale	-	-
Overall Adjustment Index	-	Overall Grief Index
Time 1 – Grief	Time 2 – Adjustment	Time 3 - Adjustment
Bereavement Experiences Questionnaire	RSES	
Cognitive, Social, Affective & Behavioral Strategies		
Impact of Loss Questionnaire		
Coping Self-Efficacy Scale	POMS, LSI, HSC, BDI	
Overall Grief		
Time 2 – Grief		
Bereavement Experiences Questionnaire	-	
Cognitive, Social, Affective & Behavioral Strategies	-	LSI
Impact of Loss Questionnaire	-	
Coping Self-Efficacy Scale	-	
Overall Grief	-	

Based on findings of the current study, several issues may be discussed. Personal adjustment seems to act as a buffer against the stress of grief as indexed by cross-lags between

adjustment and bereavement distress indicators. Among participants, grief was not an unmanageable and intrusive event, limiting adjustment skills and diminishing psychological health. The idea that grief is not a pathological event was also proposed by Gallagher et al. (1983). Rather, the severity of bereavement distress and scope of the impact of the loss amended as a function of adjustment capacities prior to and at the point of loss. In part, this notion is suggested in previous research by Gilewski et al. (1991) who found individuals reporting clinical levels of depression at the time of their spouse's death were significantly more likely to experience problems coping with the bereavement process when compared to non-clinical counterparts.

Bereavement models developed by Bowlby (1980) and Parkes (1988), among others, have implied that a person's level of adjustment and ability to adjust at the time of bereavement significantly influences the person's subsequent response to bereavement. Within this theoretical context, grief recovery is identified as a specific event sharing form with many other psychosocial transitions and significant life changes (Parkes, 1988) and dependent upon personal adjustment factors. According to results of this study, individuals experiencing personal adjustment problems are significantly more likely to experience

problems coping with the bereavement process and their loss of spouse.

Likewise, individuals with a capacity to negotiate stressful circumstances in general through personal beliefs, satisfaction with other areas of life, and accessing social support convoys are more successful coping with bereavement. This idea supports a review by Vachon et al. (1988) where authors proposed that bereavement distress could be predicted by the presence and effectiveness of a social support network for the bereaved. Based on findings from their review, the presence of an adequate convoy of support will predict the experience of less bereavement-related distress. In light of the present study, the adequacy of social support in the life of a bereaved individual represents an adjustment issue that aids grief recovery and buffers the experience of bereavement distress.

Level of adjustment among participants did not influence the extent to which participants reported the use behavioral, emotional, social, and cognitive coping strategies in response to grief as measured by the CSAB. However, strong differences across other indicators of bereavement distress suggest adjustment level did influence the effectiveness of these strategies in bringing about successful coping. It is reasonable to believe all participants made attempts to cope using personal strategies, but indicators of adjustment distinguished

participants with effective coping approaches from participants with less effective approaches.

For example, facets of adjustment measured by all six indicators of adjustment (UCLA, POMS, LSI, HSC, BDI, RSES) significantly influenced the degree to which the death event negatively impacted study participants, as reflected by IOLQ scores. The influence of adjustment on the "impact of loss" was most noticeable 3 years after initial assessment data was acquired. Individuals reporting greater adjustment early in the study found and indicated that the impact of their loss was less catastrophic and comprehensive than individuals reporting poor adjustment.

Measures of bereavement distress 6 months after initial assessment seems to have been too early in the recovery process to determine the impact of adjustment factors on the experience of grief. After 3 years, the influence of adjustment on bereavement distress became more profound and detectable using research instruments. Enough time elapsed for differing adjustment skills to produce differing reports of grief recovery.

Aggregate scores yield additional evidence in support of the causal relationship between personal adjustment and bereavement distress. Based on current results, individuals reporting high satisfaction with life in general, few symptoms

of psychological concern, stable and comfortable mood, and connection to other people at baseline report appropriate distress related to grief and impact of loss on life during later months and years. Cross-lagged panel analysis allows these causal influences to be observed and defined while ruling out the causal influence of bereavement distress on individual factors related to adjustment.

Limitations of the current study

Since the current study assessed conjugally bereaved persons, conclusions derived may be misapplied to a group bereaved of children, parents, or friends. Qualitative differences in the relationships involved and responsibilities to follow a death as a function of relationships with the deceased may alter the causal relationship between adjustment factors and bereavement distress over time (Folkman et al, 1987; Hayslip et al, 2000; Shuchter & Zisook, 1993).

Participants volunteered for the present research project and they were contacted initially through group programs and bereavement organizations. For this reason, selective sampling is a limitation to the current investigation and characteristics of the obtained research sample may be unique to the sample itself and bias the effects observed. Perhaps individuals experiencing severe bereavement distress were more likely to volunteer for the study than individuals experiencing moderate

or mild bereavement distress, thus restricting the range of participants concerning the bereavement distress variable.

Given the nature of self-report measures, self-report bias may have in influenced the extent to which participants conveyed their level of adjustment and bereavement distress being experienced. Participants may have been inclined to underestimate their adjustment skills and exaggerate their experience of distress in an effort to seek help or support. Attrition data for the current sample provided by Hayslip et al. (2000) suggests this may have been true. Specifically, individuals remaining in the study reported more bereavement distress than individuals that terminated their participation early.

For the current longitudinal study, 22 participants from the original sample terminated their involvement prior to the completion of the study. This creates problems with selective dropout. Characteristics unique to the group that terminated prematurely and/or unique to the remaining sample produce a form of sampling bias and may have confounded causal effects observed. Perhaps individuals experiencing mild bereavement distress dropped from the study, perceiving they could not benefit from or benefit the study. This possible bias may have restricted the range of persons completing the study pertaining

to bereavement distress experienced and attenuate correlations between adjustment and bereavement distress indicators.

Implications of the Current Study

Measuring the causal relationship between personal adjustment factors and bereavement distress is unique to the current study. While the presence of a relationship between these two variables is accepted, the causal influence of adjustment upon bereavement experiences is less understood. For this reason, the current investigation provides valuable information concerning influences upon grief recovery.

It is important to consider bereavement may not be as detrimental to human psychological and emotional functioning as some researchers may imply. While a death loss may be traumatic and is certainly painful, in and of itself the event may not be as catastrophic to social networks, general behavior, prevailing mood states, and mental health as some perceive. Rather, personal approaches to handling stress, painful emotions, and obstacles in life are utilized when coping with bereavement and mediate grief outcome, an idea presented by Bonnano (2001).

In light attrition data suggesting participants reporting greater distress remained in the study, the current sample may be negatively biased for bereavement distress. If this were true for most research studies and treatment for grief in general, it is reasonable to believe investigators and practitioners are

likely to observe more bereavement distress than tends to describe the population as a whole. In fact, adjustment factors may influence bereavement distress among highly distressed persons, but exert less or no influence among individuals experiencing milder symptoms of grief. This is a limitation of the current study design and is a form of sampling error.

From a treatment perspective, individuals seeking help are likely to be experiencing significant distress. Developing adjustment resources and skills to help with the distress and daily living issues would be beneficial. In his discussion of grief and emotion, Bonnano (2001) indicated that primarily expressing positive emotions, especially immediately after the death event, promotes a more healthy response and positive outcome. It is reasonable to believe a well-adjusted individual may experience fewer negative emotions during the average day than a poorly adjusted individual, a difference expected to continue during the grieving process and impact the course of recovery.

If bereavement is a psychosocial transition governed by the effectiveness of an individual's ability to cope with significant life changes, as proposed by Parkes (1988), than helping grieving persons develop coping strategies, utilize social relationships, and increase life satisfaction in other areas may help their recovery from a significant death loss.

Raphael, Minkov, & Dobson (2001) suggest the early identification of persons at risk for pathological grief is important and in such situations intervention using psychotherapy services or support provided by trained laypersons previously bereaved of a similar relationship is beneficial.

Programs designed to support an individual bereaved of a spouse or family member may focus on developing personal adjustment skills rather than the treatment of grief alone. Building unity within grieving families, community within social groups, and satisfaction in the work place with bereaved individuals are several possibilities for services focused toward personal adjustment that would decrease the experience of bereavement distress.

In the case of terminal illness, families may be supported with preventative measures and help establishing social relationships and adjustment strategies prior to the death event. With social support in place and an approach to expected circumstances established, grieving persons may be able to develop a comfortable balance between mourning for their loved one and accomplishing appropriate life and personal tasks following the death.

In addition, treating professionals may help family members gain closure by communicating important thoughts and feelings, addressing unresolved conflict, and expressing thankfulness and

gratitude to their dying family member before their death. Results of the current study may help practitioners identify individuals at risk for experiencing complications in their grief recovery and provide necessary social, behavioral, and affective support or interventions.

Results of the current study will hopefully stimulate further investigation into adjustment and bereavement issues in order to understand the relationship between these variables and determine the extent to which bereaved persons may be served effectively and their experience of bereavement distress be limited to healthy cognitive, emotional, and behavioral coping responses.

Developing an instrument to help identify bereaved persons at risk for pathological or complicated grief due to adjustment deficits may prove useful to research and practice. Generating additional literature describing grief as a natural and necessary process, to be experienced and negotiated with dignity, may also be beneficial to grieving persons and treating professionals.

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